IN THE CLAIMS

Please substitute the following claim set for those currently of record:

1. -36. (Cancelled)

37. (Currently amended) A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising ~~one or~~ more than one species of analyte DNA molecules, such that a plurality of aqueous compartments comprise a single species of analyte DNA molecule;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of ~~one~~ the single species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the ~~one~~ single species of analyte DNA molecule which is bound to the product beads by flow cytometry.

38. (Cancelled)

39. (Currently amended) A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising ~~one or~~ more than one species of analyte DNA molecules, such that a plurality of aqueous compartments comprise a single species of analyte DNA molecule;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of ~~one~~ the single species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the ~~one~~ single species of analyte DNA molecule which is bound to the product beads;

isolating product beads which are bound to a plurality of copies of the ~~one~~ single species of analyte DNA;

amplifying the ~~one~~ single species of analyte DNA molecule from the isolated product beads.

40. (Cancelled)

41. (Cancelled)

42. (Cancelled)

43. (Currently amended) A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising ~~one or~~ more than one species of analyte DNA molecules, such that a plurality of aqueous compartments comprise a single species of analyte DNA molecule;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of ~~one~~ the single species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the ~~one~~ single species of analyte DNA molecule which is bound to the product beads by hybridization to oligonucleotide probes which are differentially labeled.

44. (Cancelled)

45. (Currently amended) A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising more than one species of analyte DNA molecules, such that a plurality of aqueous compartments comprise a single species of analyte DNA molecule;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a

primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of ~~one~~ the single species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining using flow cytometry an amount of product beads comprising ~~a first~~ the single species of analyte DNA molecule as a fraction of product beads.

46. -59. (Cancelled)

60. (Currently amended) A method for isolating nucleotide sequences, comprising:

forming microemulsions comprising more than one species of analyte DNA molecules, such that a plurality of aqueous compartments comprise a single species of analyte DNA molecule;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of ~~one~~ the single species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

isolating using fluorescence activated cell sorting product beads which are bound to a plurality of copies of ~~a first~~ the single species of analyte DNA molecule from product beads which are bound to a plurality of copies of a second species of analyte DNA molecule.

61. (Cancelled)

62. (Currently amended) A method for isolating nucleotide sequences, comprising:

forming microemulsions comprising more than one species of analyte DNA molecules, such that a plurality of aqueous compartments comprise a single species of analyte DNA molecule;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a

primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of ~~one~~ the single species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

isolating product beads which are bound to a plurality of copies of ~~a first~~ the single species of analyte DNA molecule from product beads which are bound to a plurality of copies of a second species of analyte DNA molecule;

amplifying the ~~first~~ second species of analyte DNA molecule from the isolated product beads.

63. -90. (Cancelled)

91. (Currently amended) A method for analyzing nucleotide sequences, comprising:

forming microemulsions comprising ~~one or~~ more than one species of analyte DNA molecules, such that a plurality of aqueous compartments comprise a single species of analyte DNA molecule;

amplifying analyte DNA molecules in the microemulsions in the presence of reagent beads, wherein the reagent beads are bound to a plurality of molecules of a primer for amplifying the analyte DNA molecules, whereby product beads are formed which are bound to a plurality of copies of ~~one~~ the single species of analyte DNA molecule;

separating the product beads from analyte DNA molecules which are not bound to product beads;

determining a sequence feature of the ~~one~~ single species of analyte DNA molecule which is bound to the product beads by a technique selected from the group consisting of: hybridization to a fluorescently labeled oligonucleotide probe; allele specific priming; single nucleotide extension; hybridization to a fluorescein-conjugated oligonucleotide probe; and hybridization to a biotin-conjugated oligonucleotide probe.

92. (Previously presented) The method of claim 91 wherein the technique used for determining is hybridization to a fluorescently labeled oligonucleotide probe.

93. (Previously presented) The method of claim 91 wherein the technique used for

determining is allele specific priming.

94. (Previously presented) The method of claim 91 wherein the technique used for determining is single nucleotide extension.

95. (Previously presented) The method of claim 91 wherein the technique used for determining is hybridization to a fluorescein-conjugated oligonucleotide probe.

96. (Previously presented) The method of claim 91 wherein the technique used for determining is hybridization to a biotin-conjugated oligonucleotide probe.

97. (Previously presented) The method of claim 92 wherein the oligonucleotide probe has a stem and loop structure.

98. (Previously presented) The method of claim 95 wherein the oligonucleotide probe has a stem and loop structure.

99. (New) The method of claim 37 wherein the analyte DNA molecules are in a sample selected from the group consisting of urine, blood, sputum, stool, tissue, and saliva, of a eukaryotic organism.

100. (New) The method of claim 39 wherein the analyte DNA molecules are in a sample selected from the group consisting of urine, blood, sputum, stool, tissue, and saliva, of a eukaryotic organism.

101. (New) The method of claim 43 wherein the analyte DNA molecules are in a sample selected from the group consisting of urine, blood, sputum, stool, tissue, and saliva, of a eukaryotic organism.

102. (New) The method of claim 45 wherein the analyte DNA molecules are in a sample selected from the group consisting of urine, blood, sputum, stool, tissue, and saliva, of a eukaryotic organism.

103. (New) The method of claim 60 wherein the analyte DNA molecules are in a sample selected from the group consisting of urine, blood, sputum, stool, tissue, and saliva, of a eukaryotic organism.

104. (New) The method of claim 62 wherein the analyte DNA molecules are in a sample selected from the group consisting of urine, blood, sputum, stool, tissue, and saliva, of a eukaryotic organism.

105. (New) The method of claim 91 wherein the analyte DNA molecules are in a

sample selected from the group consisting of urine, blood, sputum, stool, tissue, and saliva, of a eukaryotic organism.